BIOGRAPHICAL SKETCH

Name: David J. Hartshorne

Position Title: Professor

Institution and Location	Degree	Year Conferred	Field of Study
University of Birmingham, England	B.Sc. (Honors)	1959	Biochemistry
University of Birmingham, England	Ph.D.	1962	Muscle Biochemistry

Academic and Professional Appointments

Professor, Departments of Animal Sciences (1988-present), Biochemistry (1978-present) and Physiology (1987-present), Univ. of Arizona, Tucson.

Professor, Department of Nutrition and Food Sciences, Univ. of Arizona, Tucson, 1978-1988.

Acting Head, Department of Biological Sciences, Carnegie-Mellon Univ., Pittsburgh, 1977-1978.

Professor, Chemistry Department and Department of Biological Sciences, Carnegie-Mellon Univ., Pittsburgh, 1975-1978.

Associate Professor, Chemistry Department and Department of Biological Sciences, Carnegie-Mellon Univ., 1971-1975.

Assistant Professor, Chemistry Department, Carnegie-Mellon Univ., 1967-1971.

Memberships and Honors:

National Institutes of Health Career Development Award (1970-1975)

Member, US-USSR Team on Myocardial Metabolism (1984)

Boehringer Ingelheim Lecturer (1985)

University Lecture - University of Texas, Dallas (Jan. 1987)

Tokyo University Fellowship, Tokyo, Japan (1988)

1991 - NIH Senior International Fellowship - Fogarty Award.

Chairman - XIV World Congress Int. Soc. Heart Research - Kobe, Japan (1992)

Co-Chairman - Smooth Muscle Symposium in International Union of Physiological Sciences, Glasgow, Scotland (1993)

Government Committees:

Member Study Section - Heart, Lung and Blood Research Review Committee A, National Institutes of Health (1981-1985)

Editorial Boards:

American Journal of Physiology: Cell (1984-1987), Blood Vessels (1980-1988), Journal of Biological Chemistry (1986-1991), Cell Motility and Cytoskeleton (1985-1989), Journal of Muscle Research and Cell Motility (1989-present)

Publications:

Ikebe, M., D.J. Hartshorne and M. Elzinga. (1987). Phosphorylation of the 20,000-dalton light chain of smooth muscle myosin by the calcium-activated, phospholipid-dependent protein kinase. Phosphorylation sites and effects of phosphorylation. J. Biol. Chem. 262:9569-9573.

Barsotti, R.J., M. Ikebe and D.J. Hartshorne. (1987). Effects of Ca^{2+}, Mg^{2+} and myosin phosphorylation on skinned smooth muscle fibers. Am. J. Physiol. Cell 252:C543-C554.

Ikebe, M., M. Stepinska, B.E. Kemp, A.R. Means and D.J. Hartshorne. (1987). Proteolysis of smooth muscle myosin light chain kinase. Formation of inactive and calmodulin-independent fragments. J. Biol. Chem. 260, 13828-13834.

Ikebe, M., J. Koretz and D.J. Hartshorne. (1988). Effects of phosphorylation of light chain residues threonine 18 and serine 19 on the properties and conformation of smooth muscle myosin. J. Biol. Chem. 263, 6432-6437.

Pearson, R.B., R.E.H. Wettenhall, A.R. Means, D.J. Hartshorne and B.E. Kemp. (1988). Autoregulation of enzymes by pseudosubstrate prototypes: myosin light chain kinase. Science 241, 970-973.

Merkel, L., M. Ikebe and D.J. Hartshorne. (1989). Interaction of smooth muscle tropomyosin and smooth muscle myosin. Effect on the properties of myosin. Biochemistry, 28, 2215-2220.

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Higashihara, M., D.J. Hartshorne, R. Craig and M. Ikebe. (1989). Correlation of enzymatic properties and conformation of bovine erythrocyte myosin. Biochemistry, 28, 1642-1649.

Itoh, T., M. Ikebe, G. Kargacin, D.J. Hartshorne, B.E. Kemp and F.S. Fay. (1989). Effect of modulators of myosin light chain kinase activity in single smooth muscle cells. Nature, 338, 164-167.

Ishihara, H., Martin, B.L., Brautigan, D.L., Karaki, H., Ozaki, H., Kato, Y., Fusetani, N., Watabe, S., Hashimoto, K., Uemura, D., Hartshorne, D.J. (1989). Calyculin A and okadaic acid: Inhibitors of protein phosphatase activity. Biochem. Biophys. Res. Commun. 159, 871-877.

Ishihara, H., Ozaki, H., Sato, K., Karaki, H., Kato, Y., Watabe, S., Fusetani, N., Hashimoto,K., Uemura,D., and Hartshorne,D.J. (1989). Calcium-independent activation of contractile apparatus in smooth muscle by calyculin-A.J. Pharmacol.Exp-Ther.250, 388-396.

Ito, M., Pierce, P.R., Allen, R.E., and Hartshorne, D.J. (1989). Effect of monoclonal antibodies on the properties of smooth muscle myosin. Biochemistry 28, 5567-5572.

Ito, M., Dabrowska, R., Guerriero, V., Jr., and Hartshorne, D.J. (1989). Identification in turkey gizzard of an acidic protein related to the C-terminal portion of smooth muscle myosin light chain kinase. J. Biol. Chem. 264, 13971-13974.

Rüegg, J.C., Zeugner, C., Strauss, J.D., Paul, R.J., Kemp, B., Chen, M., Li, A-Y., and Hartshorne, D.J. (1989). A calmodulin-binding peptide relaxes skinned muscle from guinea-pig taenia coli. Pflügers Arch. 414, 282-285.

Abougou, J-C., Hagiwara, M., Hachiya, T., Terasawa, M., Hidaka, H., and Hartshorne, D.J. (1989). Phosphorylation of caldesmon. FEBS Lett. 257, 408-410.

Sommerville, L.E., Henry, G.D., Sykes, B.D., and Hartshorne, D.J. (1990). Spin echo ^{1}H-NMR studies of differential mobility in gizzard myosin and its subfragments. Biochemistry, 29, 10855-10864.

Eriksson, J.E., Toivola, D., Meriluoto, J.A.O., Karaki, H., Han, Y-G., Hartshorne, D.J. (1990). Hepatocyte deformation induced by cyanobacterial toxins reflects inhibition of protein phosphatases. Biochem. Biophys. Res. Commun. 173, 1347-1353.

Chartier, L., Rankin, L.R., Allen, R.E., Kato, Y., Fusetani, N., Karaki, H., Watabe, S., and Hartshorne, D.J. (1991). Calyculin-A increases the level of protein phosphorylation and changes the shape of 3T3 fibroblasts. Cytoskel. Cell Motil., 18, 26-40.

Anderson, T.A., Ito, M., Hartshorne, D.J., and Rayment, I. (1991). Crystallization and preliminary analysis of telokin, the C-terminal domain of myosin light chain kinase. J. Mol. Biol., 217, 621-623.

Hori, M., Magae, J., Han, Y-G., Hartshorne, D.J., and Karaki, H. (1991). A novel protein phosphatase inhibitor, tautomycin. Effect on smooth muscle. FEBS Lett. 285, 145-148.

Ikebe, M., Hewett, T.E., Martin, A.F., Chen, M., and Hartshorne, D.J. (1991). Cleavage of a smooth muscle myosin heavy chain near its C terminus by α-chymotrypsin. J. Biol. Chem. 266, 7030-7036.

Ito, M., Guerriero, V., Jr., Chen, X., and Hartshorne, D.J. (1991). Definition of the inhibitory domain of smooth muscle myosin light chain kinase by site-directed mutagenesis. Biochemistry, 30, 3498-3503.

Pearson, R.B., Ito, M., Morrice, N.A., Smith, A.J., Condron, L., Wettenhall, R.E.H., Kemp, B.E., and Hartshorne, D.J. (1991). Proteolytic cleavage sites in smooth muscle myosin-light-chain kinase and their relation to structural and regulatory domains. Eur. J. Biochem. 200, 723-730.

Hirano, K., Chartier, L., Taylor, R.C., Allen, R.E., Fusetani, N., Karaki, H., and Hartshorne, D.J. (1992). Changes in the cytoskeleton of 3T3 fibroblasts induced by the phosphatase inhibitor, calyculin-A. J. Mus. Res. Cell Motil. 13, 341-353.

Hartshorne, D.J., and Kawamura, T. (1992). Regulation of contraction-relaxation in smooth muscle. N.I.P.S. 7, 59-64.

Holden, H.M., Ito, M., Hartshorne, D.J., and Rayment, I. (1992). X-ray structure determination of telokin, the C-terminal domain of myosin light chain kinase, at 2.8 Å resolution. J. Mol. Biol. in press.

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